Supporting module four, part one: Cancer treatment planning

Key concepts

- Tumour, treatment and person related factors influencing treatment planning.
- Cancer clinical trials.
- Evidence based treatment guidelines.
- Principles for facilitating decision making by people affected by cancer.

Objectives

On completion of this supporting resource, you should be able to:

1. Explain the principles of cancer treatment planning.
2. Discuss the role of cancer clinical trials in evaluating cancer treatment.
3. Identify nursing implications associated with caring for the person considering or undergoing a cancer clinical trial.
4. Apply evidence based treatment guidelines in the context of a multidisciplinary approach to planning treatment.
5. Implement strategies to support the person affected by cancer to make decisions about treatments.

Learning activities
At times, you will have learning activities to complete. Click on the learning activities button and a list of questions will pop up. The questions will relate to the content you've just read or the video you've just watched.

Resource links
Resource links are included throughout the resource. These links lead to interesting articles or websites, and are designed to encourage you to explore other available resources.

PDF of EdCaN module: Cancer treatment planning.
You can download a PDF version of the module.

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Principles of treatment planning

The determination of a treatment plan takes into account a number of factors and variables. The aim of treatment for cancer may be cure, control and prolongation of life, or palliation of symptoms. These goals are re-evaluated when an individual's disease status changes.[1]

Tumour factors

- Accurate diagnosis and staging is imperative to inform treatment options and decisions.[2]
- Tumour size, anatomic location, histology, sensitivity to antineoplastic agents, biological or targeted therapies or radiation, natural history and related survival statistics are also considered.[3]
- Prognostic factors and risk factors identified in staging can determine the need for standard approaches or recommendation for participation in clinical trials.[1]

Treatment factors

- Treatment decisions may vary in complexity depending on disease types. While some diseases have established therapeutic regimens, for others research data have not led to prescriptive guidelines.[2]
- Evidence of treatment effectiveness can also be considered in conjunction with questions about affordability.[2]

Individual factors

Clinical perspectives also need to consider a range of personal factors. Choice of therapy can be influenced by a person's:[2-4]

- general health
- demographic variables, such as age, sex, financial status, education and geography
- external factors such as media, family and friends
- psychological factors, such as body image concerns
- performance status
- preferences, values, and beliefs.

Recognising these individual factors has been identified as important to ensure a health care approach which is sensitive to the needs and expectations of the person affected by cancer.

Assessment tools

Standardised methods of assessing responses to treatment and individual factors (such as quality of life and performance status) form an essential element of treatment planning and informed decision making throughout the care continuum.

Performance scales

Performance scales that measure an individual's functional status may be used in eligibility criteria for clinical trials, and also to determine an individual's prognosis and survival time. A person with a lower functional score may have reduced likelihood to respond to treatment favourably.[5]

The most commonly used performance scales are the:

- Karnofsky scale
- Karnofsky (Australian) performance scale[6]
- ECOG scale[7]

The Psycho-oncology Outcomes Database (PoD)

PoD[5] is a searchable online database of validated psychosocial and quality of life measures that assess a broader range of domains than performance status alone. The database contains information about more than 350 patient-reported outcome measures, focusing on outcomes such as quality of life, supportive care needs, psychological states and social support. Access to PoD is free via the Psycho-oncology Co-operative Research Group members' website. (This is a free resource but you must register as a member and then click 'Remember me' to bypass the login page in future)

Learning activities	
Completed ☐	Activities 1. Review the record of an individual in your health care facility who has recently been diagnosed with cancer, and where possible interview them. • Identify their cancer diagnosis. • Describe the disease, treatment, and individual factors that were considered in the treatment planning process.

Communication principles to support treatment decision making

SCNs play an important role in educating and supporting people affected by cancer as they evaluate the benefits and risks associated with treatments.

A person diagnosed with cancer often faces a range of difficult decisions. Preferences for involvement in making decisions vary considerably. Health professionals are encouraged to assess individual preferences for involvement, acknowledging that preferences are likely to change over time and be influenced of many factors. Assessment of preference is therefore a process that should be conducted throughout the duration of the person's cancer journey.[8] While most individuals prefer a collaborative role, a significant minority prefers to take a passive or inactive role. The association between specific individual factors such as age and gender and preferences or satisfaction related to collaborative decision making is not well understood.[8]

Different approaches to facilitating the person's decision making have been described:[9]

- **Traditional or paternalistic approach** —decision making is left mainly to healthcare professionals, who generally make the decisions and recommend a particular course of action, often without involving healthcare consumers to any great extent in the decisions.
- **Informed decision making** — consumers make decisions based to some extent on information provided by professionals. The flow of information is mostly one way, from professionals to consumers.
- **Partnership approach or shared decision making** — consumers and professionals share relevant information (for example, about risks, benefits, consumer's characteristics and values), and agree on decisions.

Despite moves towards more informed and partnership approaches, a mix of these different types of decision making is likely depending on the individuals involved and the circumstances.[9] Health professionals are encouraged to assess individual preferences for involvement, acknowledging that preferences are likely to change over time and as a result of many influences. Assessment of preferences for decision making is a process that should be conducted throughout the duration of the person's cancer journey.[8]

Communication has been identified as an important element of treatment decision making. A tool kit[9] has been developed to support health professionals and people affected by cancer communicate effectively to support decision making. Key principles in the toolkit include:[9]

Principle 1: Good communication between healthcare consumers and healthcare professionals has many benefits.

Principle 2: Healthcare consumers vary in how much participation in decision making they desire.

Principle 3: Good communication depends on recognising and meeting the needs of healthcare consumers.

Principle 4: Perception of risks and benefits are complex and priorities may differ between healthcare consumers and healthcare professionals.

Principle 5: Information on risks and benefits needs to be comprehensive and accessible.

Source: Making decisions about tests and treatments: Principles for better communication between healthcare consumers and healthcare professionals. Australian Government. NHMRC. 2006[9]

Providing information is a key component to support treatment decisions. When providing treatment information and supporting decision making with people with cancer the following issues should be considered:[4]

- Individuals will vary in their needs for information and their needs may change as treatment proceeds, requiring individualised responses by clinicians
- Individual preferences for communication styles vary, and clinicians need to tailor the format of information provision
- Information recall can be increased by simplifying the language, dividing the information into key issues, and repeating key messages
- Time information provision appropriately
- Individual preferences for the amount, detail and content of information varies and should be tailored to the individual and their circumstances and need
- Provision of a question prompt sheet may promote questions, reduce anxiety, improve recall and shorten the consultation
- Provision of reputable written, audio-visual, and / or online resources can support individual understanding and reinforce information provided

Key resources

A number of resources are available to support standardised provision of information to support treatment decision making:

Radiation Therapy Patient Education Checklist. eviQ Cancer Treatments Online, 2014
eviQ Patient Information Sheets. eviQ Cancer Treatments Online, 2014
eviQ Question Prompt Lists. eviQ Cancer Treatments Online, 2014

Learning activities

Completed	Activities	
☐	1	Discuss the meaning of informed consent in the context of treatment decision making.
☐	2	Outline how the SCN can promote autonomy in decision making.
☐	3	Access the NHMRC tool kit[9] , reflect on a clinical example, and discuss how the five principles were used or how their use may have improved the decision making process.
☐	4	Access the Clinical practice guidelines for the psychosocial care of adults with cancer[4] and: • Discuss the likely needs of people affected by cancer at each stage of treatment planning. • Describe the key sources of information that a person affected by cancer can use to support treatment decisions.

☐	5 Discuss the role of clinical practice guidelines and websites (such as those listed below) in assisting people affected by cancer to make treatment decisions: • eviQ[10] • Mayo clinic- treatment decisions[11] • Cancer Australia- breast cancer treatment[12]

Multidisciplinary teams and treatment planning

Multidisciplinary care has been described as 'an integrated team approach to health care in which medical and allied health care professionals consider all relevant treatment options and develop collaboratively an individual treatment plan for the person affected by cancer'.[13]

People affected by cancer (including health care teams and services) can benefit from a multidisciplinary approach in the following ways:[13]

- Treatment planning is improved through consideration of full therapeutic range, and as a result survival benefit has been reported.
- Emotional needs of individuals are recognised.
- Less service duplication, improved coordination of services and development of clear lines of responsibility between members of the MDT.
- Shared decision making in the MDT is more likely to result in recommendations that align with best practice and evidence based care.
- Reduction in minor psychological morbidity of team members.
- Learning and educational opportunities for team members.
- Improved MDT communication.
- Understanding and adherence to agreed treatment and care plan with knowledge of the investigations and results.

The principle objectives of a multidisciplinary meeting in the context of treatment planning are:[14]
to provide an opportunity for multidisciplinary discussion of all newly diagnosed people, and to review cases of cancer within an appropriate timeframe to facilitate effective treatment planning

- to determine, in light of all available information and with reference to the evidence base, the most appropriate treatment plan for each individual
- to provide educational opportunities for team members and trainees.

It is important for teams to establish a process for communicating case discussion outcomes and recommendations to the person and their General Practitioner. The treatment and care plan should be formal, in writing, and consider the full range of treatment and care options available to the patient, while taking into account the patient’s preferences.[15]

Where possible, written care plans should be made available to the person with cancer. In addition, the persons’ access to a second opinion outside the initial team should be respected and facilitated.[15]

Re-evaluating treatment and care plans should be done at critical points during the course of disease including diagnosis, change in treatment, recurrence, or at the end of active treatment. Treatment and care plans should be reviewed regularly because many changes will occur during the course of the person’s disease. Any changes made to the person’s treatment plan should be discussed with them and documented.[15]

Key resource:

Cancer Australia Multidisciplinary Care resource[15]

Multidisciplinary care

Multidisciplinary care (MDC) is becoming an increasingly important component of national and State/Territory cancer frameworks. Cancer Australia is committed to improving the uptake of multidisciplinary cancer care, using lessons learned from a number of key national projects.

Treatment and supportive care for people with cancer involves a number of different medical and allied health care professionals. Evidence indicates that a team approach to cancer care, in which health care professionals together consider all treatment options and develop an individual treatment plan for each patient, can reduce mortality and improve quality of life for the patient.

Learning activities

Completed	Activities	
☐	1	Describe the role of the SCN in multidisciplinary treatment planning.
☐	2	Describe the role of the general practitioner in multidisciplinary treatment planning.
☐	3	Describe the role of the person affected by cancer in multidisciplinary treatment planning.
☐	6	Access the Cancer Australia Multidisciplinary Care resource.[15] Complete the following: • What are key steps which assist the MDT in effective decision making when developing the treatment plan? • Discuss strategies which may enhance multidisciplinary approaches to treatment planning.
☐	5	Describe how you would explain the MDT's role in planning treatments for an individual recently diagnosed with cancer.

Evidence based approaches to cancer treatment

Evidence based clinical practice guidelines are systematically developed statements that assist the practitioner and person affected by cancer to make decisions about appropriate health care for specific clinical circumstances. They collate the best available evidence to underpin scientifically-valid recommendations for the prevention, diagnosis and treatment of cancer. In the area of cancer control in Australia, evidence based clinical guidelines have been developed by the National Health and Medical Research Council (NHMRC), Cancer Australia, and Cancer Council Australia.

From the perspective of an SCN, evidence based practice requires an understanding of the evidence base underpinning various cancer treatments. Also important to evidence based practice is the SCN's advanced level of knowledge regarding the evidence base underpinning nursing intervention.

In addition to the clinical guidelines for treatment of specific cancer, a number of useful sources provide evidence based guidelines to inform core domains of SCN practice. Examples include:

- ONS PEP resources
- NCCN guidelines
- NHMRC guidelines

Resources developed to support practitioners to use and appraise evidence to improve local cancer control efforts in line with national best practice:

- Taking action locally: eight steps to putting cancer guidelines into practice. National Institute of Clinical Studies, 2006[16]
- The NICS Barrier Tool. National Institute of Clinical Studies[17]

Learning activities

Completed		Activities
☐	1	Access the article Development of evidence-based clinical practice guidelines for best practice: Towards better outcomes[18] , and summarise the benefits and concerns which have been expressed regarding the use of clinical practice guidelines in clinical care.
☐	2	Using evidence based guidelines, summarise treatment recommendations for an individual diagnosed with cancer in your practice setting. If you are unable to identify a suitable patient from your practice setting, choose one of the following: • Locally advanced / high risk prostate cancer – de novo presentation (clinical stage T3-4, and /or early-stage disease with PSA>20). • Stage II operable Non-small cell lung cancer.
☐	3	Reflect on the extent to which evidence based clinical guidelines are implemented in your practice setting and the reasons for this.
☐	4	Review Taking action locally: Eight steps to putting cancer guidelines into practice[16] and the NICS Barrier Tool[17] and: • Identify challenges and strengths which may impede or assist the implementation of evidence based guidelines in your practice setting.

Clinical trials in cancer treatment

The findings of clinical trials are integral to the practice of evidence based cancer care.[19, 20]

The purpose of clinical trials is to evaluate the safety, effectiveness and toxicities of new agents and combinations of agents or interventions in humans. Clinical trials involve the following four phases of research or evaluation of a biomedical intervention:[21]

- **Phase I trials** involve testing of a new biomedical intervention for the first time in a small group of people (e.g. 20-80) to evaluate safety (e.g. determine a safe dosage range and identify side effects).
- **Phase II trials** study an intervention in a larger group of people (several hundred) to determine efficacy (whether it works as intended) and to further evaluate its safety.
- **Phase III trials** study the efficacy of an intervention in large groups of trial participants (from several hundred to several thousand) by comparing the intervention to other standard or experimental interventions (or to non-interventional standard care) as well as to monitor adverse effects and to collect information that will allow the intervention to be used safely.
- **Phase IV trials** are done after an intervention has been marketed. These studies are designed to monitor the effectiveness of the approved intervention in the general population and to collect information about any adverse effects associated with widespread use over longer periods of time.

A review of cooperative clinical trials in cancer in Australia found that fewer than 3% of new adult cases each year enter a clinical trial. It has been suggested that at least twice as many adults with cancer would benefit from trial entry.[20]

Barriers to access and enrolment to trials are:[22]

- system barriers (particularly limited funding for clinical trials)
- healthcare provider barriers (protocol complexity, general lack of knowledge)
- participant barriers (discomfort about the research process, fear of potential side effects).

Key resource

Clinical Trials. Australian Government. National Health and Medical Research Council. 2014

Learning activities		
Completed	Activities	
☐	1	Discuss the benefits and risks of cancer clinical trials for individuals affected by cancer; the community; and health professionals.
☐	2	Access the Priority driven research web page on the Cancer Australia website and summarise the organisation's current research priorities.
☐	3	Access the NHMRC Clinical Trials website, and: • Describe the four different phases of a clinical trial. • Outline the essential elements of a clinical trial protocol.
	4	Access the Australian and New Zealand Clinical Trials Registry[23], and: • Identify the purpose of the registry. • Select one type of cancer common to your area of practice and search for current clinical trials relevant to this cancer.
	6	Access the National Statement on Ethical Conduct in Human Research[24] and: • Summarise the values and principles underpinning clinical research • Summarise the guidelines outlining the general requirements for consent.

The SCN's role in research and clinical trials

SCNs can contribute to many aspects of the clinical trial process, including: [25]

- conceptualising and designing studies as part of a multidisciplinary team
- providing information to people affected by cancer
- assessing and monitoring people involved in clinical trials
- implementing treatments as part of a clinical trial protocol
- ensuring adherence to ethical principles associated with clinical trials.

The SCN also has a key role in providing continuity of care, advocating for the person affected by cancer, interacting with the research team, and documenting care provided.[25]

Competencies for SCNs

Specific competencies for SCNs in relation to the conduct of clinical trials may include:[26]

- protocol assessment
- planning for study initiation
- subject recruitment
- participation in the informed consent process
- provision of education to learn about the investigational product
- implementation of the study and continual evaluation for adverse events
- data management
- professional nursing activities such as supporting the discussion of ethical issues relating to the trial and the training of new research staff.

Learning activities	
Completed	Activities
☐	1 Access a current text and the following websites to answer the questions below. • National Cancer Institute: Educational materials about clinical trials[27] • Clinical Trials website. NHMRC a. Provide a detailed explanation of the roles of the clinical trials nurse/research nurse. b. Outline the complementary roles and role overlap between the SCN and the clinical trials nurse.
☐	2 A person newly diagnosed with cancer asks you if they should enroll in a clinical trial. Discuss how you would respond.
☐	3 Identify a clinical trial currently underway within your health care facility. Where possible, discuss this trial with the research nurse or data manager. Outline the purpose and process of this trial.
☐	4 Discuss the effects of 'patient outcome' studies on the practice of nursing. Provide cancer control examples.

Older people with cancer: treatment planning

Physiological changes that occur with ageing, as well as multiple co-morbidities, can complicate management of cancers in older persons. For example, older people treated for cancer have increased susceptibility to therapeutic complications, such as severe and prolonged myelosuppression and mucositis, and increased risk of cardiomyopathy and central and peripheral neuropathy.[28]

Cancer treatment tolerance and outcomes are impacted upon by co morbidities, medication usage and by geriatric syndromes including frailty, functional impairment and cognitive impairments. Therefore, cancer treatment decision making is potentially more complex for older people as all these facets need to be incorporated into decisions.[29] Individual treatment planning is imperative, given reports that the elderly are less likely to receive less intensive therapy, leading to poorer outcomes.[30] Older people with cancer are underrepresented in clinical trials for new cancer therapies. Evidence about the efficacy and side effects of treatments in older people may be lacking, with older people less likely to be included in clinical trials, in part because most trial protocols require full treatment doses, which may not be appropriate for some older patients.[28, 31-33]

It has been suggested that the older person's comorbidities and personal choice alone are unlikely to explain why the older person receives less intensive treatment.[30]

- Healthcare professionals may make assumptions about an older person's preferences about treatment and a decision that an older person will not be able to cope with treatment can be made without fully assessing their overall physical health.[34]
- Healthcare professionals may feel less confident about how to manage treatment in older people.[31, 35]
- Gaps in appropriate community support for older cancer patients may mean that healthcare professionals are less willing to offer intensive treatment.[31, 35]
- Health professionals may assume an ability to represent the older person's best interests without endorsement from them. The older people's rights may be infringed and wishes neglected and they may not be managed in an ethical way due to beneficent ageism. [36]

Geriatric Assessment

The International Society of Geriatric Oncology (SIOG) recommends that the following domains are evaluated when determining treatment approaches:[37]

- Functional status
- Comorbidity
- Cognition
- Mental health status
- Fatigue
- Social status and support
- Nutrition
- Presence of geriatric syndromes.

The ideal approach to assessment of older people is a multidisciplinary geriatric assessment. A comprehensive geriatric assessment is a process that 'determines an elderly person's medical, psychosocial, functional, and environmental resources and problems' with the aim of developing an individualised plan for treatment and follow-up, targeting identified impairments.[38]

A comprehensive geriatric assessment is time and resource intensive. Therefore SIOG recommend a two set approach, with initial screening for age related problems, enabling targeting of more in-depth assessment to older people most likely to benefit. No specific screening tool has been demonstrated to outperform other tools. If risk factors have been identified, a number of specific aged care assessment tools are available to supplement the assessment to identify the level of risk and subsequent intervention required.[37]

Key resource

An overview of screening and assessment of older people and tools and resources to support practice: Assessment. Victorian Government Health Information, 2014

Learning Activities	
Completed	Activities
☐	1 Access Chemotherapy in the Elderly[39] and: • Summarise the impact of ageing on pharmacokinetics and pharmacodynamics. • Discuss the implications of these issues on treatment planning.
☐	2 Compare the treatment plan of an individual in their 40s to one over 70 with the same/similar cancer diagnosis. Discuss reasons for similarities or differences in the plan.

Children and young people with cancer: treatment planning

Treatment and supportive care approaches used for children and young people depend on the underlying diagnosis and, to some extent, the child's age. Survival outcomes and impact of toxicities also differ with the age of the child.[40, 41] For example, radiotherapy is avoided in children aged under three due to increased associated long term affects.[40]

The principal differences in cancer treatment for children compared with adults are:

- increased intensity
- toxicities may have more significant and lasting effects.

Treatment and supportive care strategies must consider the child's developmental stage. For example, during treatment with radiotherapy, the child may be required to remain still for up to 25 minutes. Treatment planning may involve discussions around use of anesthetics and play therapy.[40]

The impact of diagnosis and treatment of childhood cancer is felt by the individual and extends into the family. Treatment planning for children and young people with cancer occurs in the context of this extended group.[41]

Treatment decision making for children with cancer

Because of their age, children are not considered legally competent to make decisions about cancer treatment. Parents or guardians must make these decisions for them. This adds to the complexity of treatment for children with cancer, as does the large number of people involved in decision making, legal issues related to decision making about minors by others, and ethical concerns about informed consent and assent.[41]

Parental decision making for children with cancer is extremely challenging, taking place during a period of acute emotional distress, with large amounts of complex new information to take in, and uncertainty about their child's future.

A conceptual model of parental treatment decision making has been developed. While it is acknowledged that this field requires further research, the following contextual factors have been identified as significant in parental decision making.[42]

Illness factors

- Prognosis/severity of illness: parents are more likely to rely on health care providers to make treatment decisions if the child has a poorer prognosis and increased illness severity.
- Uncertainty: parents are more likely to seek a high level of participation in decision making when outcomes are unclear.

Person factors

- Culture: deference to treatment decisions of health care professionals may be related to language barriers and/or cultural norms.
- Educational level: higher degree of autonomy in decision making by parents with higher education levels.
- Emotional distress: cognitive abilities may be impaired during highly emotional times, impacting comprehension of information and ability to participate in treatment decision making.
- Knowledge and experience: throughout the treatment trajectory, parents may reclaim decision making control as their knowledge, experience, and confidence increases.

Relationship factors

- Trust in health care professional: parents who trust the health care providers have been shown to take on more passive roles in decision making.
- Support: parents who feel supported by the health care provider or family have reported more confidence in making day-to-day decisions for their child and less decisional conflict.

Learning activity	
Completed	Activity
☐	1 Access Improving outcomes in children and young people with cancer[40], and: • Summarise the increased complexities associated with planning antineoplastic therapy in children compared with adult populations. • Discuss the implications of the above complexities in multidisciplinary treatment planning for a two year old and a 12 year old.
☐	2 Access the NHMRC Clinical Trials website: Clinical trials and children, and: • Describe what is meant by the term 'assent' in relation to children and consent for treatment. • Discuss how the concept of assent is incorporated into your practice area.

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